

include a broken line labeled as I to show where the section was taken from which Figures 3 and 4 are based on. Additional amendments have been made to the Brief Description of the Drawings section in the specification. It is therefore requested that the objection to the drawings be withdrawn, and the drawings be considered allowable.

In paragraph 4 of the Office Action the Examiner objected to the specification as not including subject headings. The appropriate subject headings have been added to the specification by this amendment. It is therefore requested that this objection be withdrawn.

In paragraph 5 of the Office Action the Examiner objected to the specification because of the ambiguous term "ample". This term has been eliminated from the specification as can be seen in the amended paragraphs above. It is therefore requested that this objection be withdrawn.

In paragraph 6 of the Office Action the Examiner objected to Claims 8 and 9 under 37 CFR §1.75 as being in improper form because a multiple dependent claim cannot depend from any other multiple dependent claim. Claims 3, 8 and 9 have been amended so that they are no longer multiple dependent claims. It is therefore requested that this objection be withdrawn.

In paragraph 8 of the Office Action the Examiner objected to Claims 1-7 under 35 U.S.C. §112, second paragraph.

Reconsideration is requested.

Claim 1 has been amended to include the content of cancelled Claim 2. The terms "simplified" and "ample" have been removed from Claim 1. Also, the listing of the reference characters after "two bevel gear pairs" has been removed, and therefore the basis for the rejections for lack of antecedent basis have been removed for gears 18 and 23 and pistons 19 and 21. In Claim 4 the term "said input arm" has been rewritten as "said input shaft" as the Examiner correctly surmised in the Office Action. Antecedent basis for this amendment can be found in the specification at page 5, line 8. Also the phrase "a side area of said arm, connected to said input arm" has been amended to improve the syntax of the claim. The phrase

"the outside of the vehicle" has been amended to read "measured with respect to the direction of movement of said vehicle chassis" to add clarity to the claim and remove the terms which lack antecedent basis. Claim 7 has been amended to only include the recitation of " said angle (β) is between 3° and 40° . New Claim 10 has been added to include the recitation of the most preferable angle of 15° . It is therefore requested that the above rejections be withdrawn.

In paragraph 10 of the Office Action, the Examiner rejected Claims 1-9 under 35 U.S.C. §102(b) as being anticipated by Wildey (United States Pat. No. 4,064,956, hereinafter Wildey).

Reconsideration is requested.

Wildey teaches a bogie drive and suspension system with a "coupling 100 compris[ing] a pair of back-to-back flange members 98 connected by a midshaft 128. The flange members have internal teeth 101 formed thereon which mesh with external teeth 103 formed on the midshaft 128" (col. 4, lines 40-44). The reason for this configuration is stated in the specification of the Widley patent as "the teeth are cut in a manner which permits some rocking movement of the shaft 128 within the flanges 98 to accommodate misalignment of the central and wheel end transfer units due to deflection of the walking beam [38] under load" (col. 4, lines 45-49). The present application recites a "continuous transmission shaft (20)" (see amended claim 1). This shaft is directly linked with the gearing system and does not have any intermediary components (see Figures 3 and 4), such as elements 96, 98, 101, 103 or 120 of the Wildey device (see Wildey, figure 3 and col. 4, lines 19-49). Additionally, there is no equivalent in the present invention of the "walking beam 38" as taught by Wildey, and therefore there is no reason to design a system that compensate for "deflection of the walking beam." Therefore, the continuous shaft of the present invention, as recited in amended claim 1, is wholly different from the multi-component transmission shaft of the Wildey invention. One of the objects of the present invention was to design a

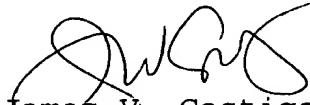
engine half-trolley with "the number of components limited to the minimum" in order to reduce initial construction costs, reduce repair costs due to inventory storage of additional components, reduce the number of components which may break, and reduce the overall size of the engine half-trolley (specification page 2, line 19 to page 3, line 7). This object is not accomplished by the multi-component shaft of the Wildey device as it is by the continuous shaft of the present invention. Every element of the claimed invention must be included in the prior art reference in order to maintain a §102(b) rejection; therefore, the Wildey patent cannot be employed to maintain a §102(b) rejection because it does not anticipate each and every element of the amended claims. Furthermore, it is requested that the §102(b) rejection be withdrawn based upon the above amendments and remarks.

Based on the above amendments and remarks, applicant respectfully submits that all of Claims 1-10 are now allowable over the prior art and that the present application is in proper form for allowance. Reconsideration of these rejections is requested in view of this amendment.

For these reasons, it is requested that the grounds for rejection be withdrawn.

An early and favorable action is earnestly solicited.

Respectfully submitted,


James V. Costigan
Registration No.: 25, 669

MAILING ADDRESS

Hedman & Costigan, P.C.
1185 Avenue of the Americas
New York, NY 10036
(212) 302-8989

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner for Patents, Washington, D.C. 20231, on 1/28/03

MARKED UP COPY OF AMENDMENT TO SPECIFICATION

Rewrite the Title as follows:

--ENGINE HALF-TROLLEY [OF SIMPLIFIED STRUCTURE] FOR
INDUSTRIAL VEHICLES--

Page 3, rewrite the paragraph that begins at line 7 as follows:

The above purposes according to the present invention are achieved by providing an engine half-trolley [of simplified structure] for industrial vehicles[, according to claim 1] set at side of a vehicle chassis and comprising a casing (12) from which there comes out at least one wheel hub (13) for a respective wheel (14), an input shaft (17) to said half-trolley (10) being connected to a differential (16) of the vehicle, wherein between said input shaft (17) and said wheel hub (13) there are provided in succession two bevel-gear pairs housed in an arm (15, 115) forming part of said casing (12), in which at least one bottom area of said arm (15, 115), for attachment to the wheel hub (13), has bevels (26, 26'), wherein within said arm (15, 115) forming part of said casing (12) there is set in succession a ring bevel gear (18), which meshes with a bevel pinion (19) set at one first end of a continuous transmission shaft (20), said transmission shaft (20) carrying, at its second end, another bevel pinion (21), which in turn engages with a further ring bevel gear (23) fixed on a shaft (24) connected to said wheel hub (13).

Page 4, rewrite the paragraph that begins at line 4, and the following paragraph as follows:

Figure 3 is a sectional view, at an enlarged scale, of one half of the engine half trolley illustrated in Figure 2 along the plane labeled as I according to one first embodiment; and

Figure 4 is a sectional view, at an enlarged scale, of

one half of the engine half trolley illustrated in Figure 2 along the plane labeled as I [according to the invention] in a second embodiment with inclined arms.

Page 6, rewrite the paragraph that begins at line 4 as follows:

The presence of these pinions and ring bevel gears moreover make it possible to keep the overall dimensions of the casing 12, of the arm 15, and of its extension 25 extremely contained. In fact, the arm 15 is provided, in its area of attachment to the central transmission and, above all, in particular in one bottom area of attachment to the extension 25, which bears the wheel hub 13, with [ample] bevels 26, 26'. These bevels 26, 26' in the casing 12 reduce the overall dimensions towards the inside of the vehicle and enable the vehicle provided with [the] said half-trolley 10 to have a greater and easier penetration, above all in muddy terrain and in situations where obstacles may be present.

Page 7, rewrite the paragraph that begins at line 15 as follows:

There is, in fact, also obtained an inclination outwards of the internal part of the arm 115, as already obtained thanks to the [ample] bevels 26, 26'.

MARKED UP COPY OF AMENDMENT TO CLAIMS

1. (amended) An engine half-trolley (10) [of simplified structure] for industrial vehicles set at [the] a side of a vehicle chassis and comprising a casing (12) from which there comes out at least one wheel hub (13) for a respective wheel (14), an input shaft (17) to said half-trolley (10) being connected to a differential (16) of the vehicle, [characterized in that] wherein between said input shaft (17) and said wheel hub (13) there are provided in succession two bevel-gear pairs [(18, 19; 21, 23)] housed in an arm (15, 115) forming part of said casing (12), in which at least one bottom area of said arm (15, 115), for attachment to the wheel hub (13), has [ample] bevels (26, 26')), wherein within said arm (15, 115) forming part of said casing (12) there is set in succession a ring bevel gear (18), which meshes with a bevel pinion (19) set at one first end of a continuous transmission shaft (20) having a first end and a second end, said transmission shaft (20) carrying, at said second end, another bevel pinion (21), which in turn engages with a further ring bevel gear (23) fixed on a shaft (24) connected to said wheel hub (13).

3. (amended) The engine half-trolley (10) according to Claim 1 [or Claim 2, characterized in that] wherein said wheel hub (13) is set on an extension (25) of said arm (15).

4. (amended) The engine half-trolley (10) according to Claim 1, [characterized in that] wherein said casing (12) [is provided, in a side area of] comprises said arm (15, 115), [connected to] and said input [arm] shaft (17) [, with] said casing (12) further comprising [an ample] said bevel (26).

5. (amended) The engine half-trolley (10) according to Claim 1, [characterized in that] wherein an axis of said arm (115)

is inclined at an angle (β) with respect to a longitudinal direction, said angle (β) being [rotated] measured with respect to [the outside of] the direction of movement of said vehicle chassis.

6. (amended) The engine half-trolley (10) according to Claim 5, [characterized in that] wherein said axis of said arm coincides with an axis of rotation (27) of a transmission shaft (20), which is set supported on bearings (22).

7. (amended) The engine half-trolley (10) according to Claim 6, [characterized in that] wherein said angle (P) is between 3° and 40° [, preferably approximately 15°].

8. (amended) The engine half-trolley (10) according to [any one of the foregoing c]Claim[s] 7, [characterized in that it] wherein said engine half-trolley (10) is provided with a pair of arms (15, 115) carrying respective wheel hubs (13), each of said arms (15, 115) being provided with two bevel-gear pairs (18, 19; 21, 23), which drive in motion a single input shaft (17) and each of which controls a wheel hub (13) for a respective wheel (14).

9. (amended) The engine half-trolley (10) according to [any one of the foregoing c]Claim[s] 8, [characterized in that it] wherein said arm (15, 115) is a casting.

Kindly add new Claim 10 as follows:

10. (new) The engine half-trolley (10) according to Claim 6, wherein said angle (β) is approximately 15° .

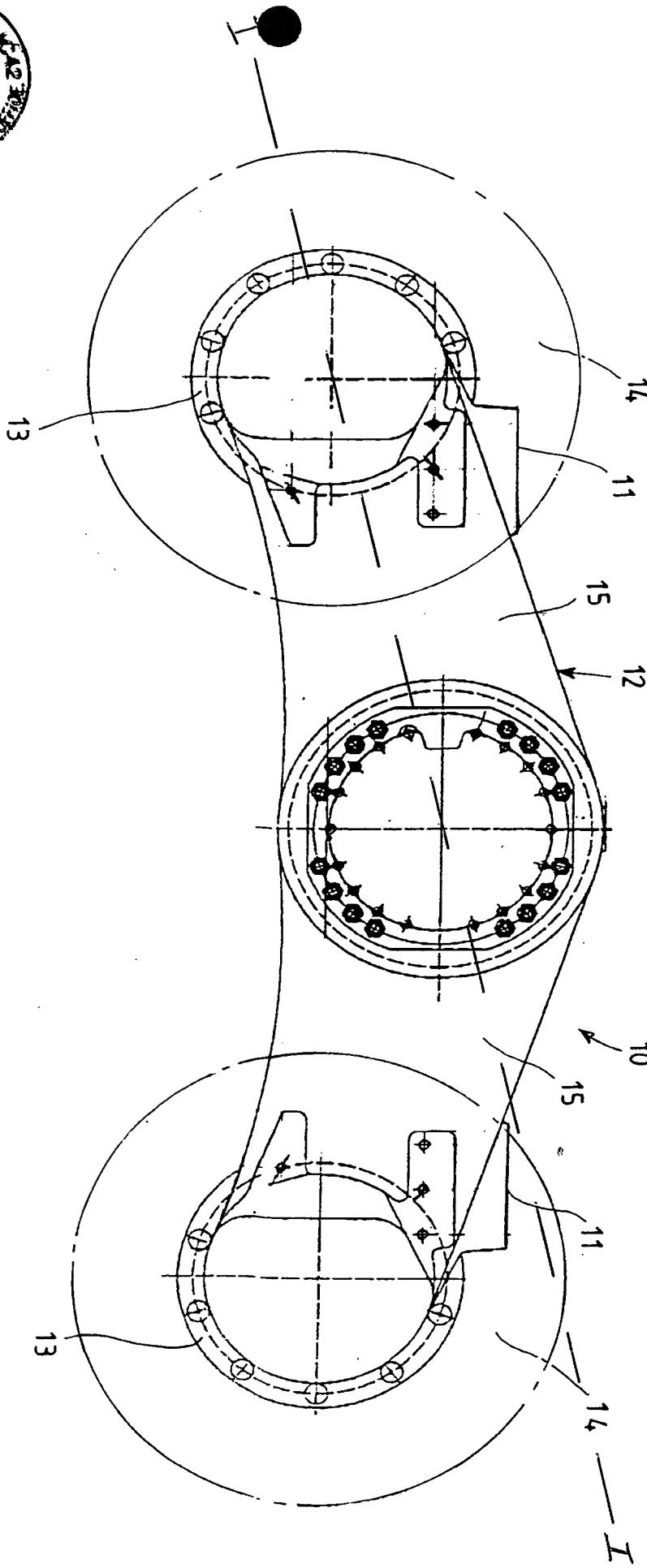


Fig.2

